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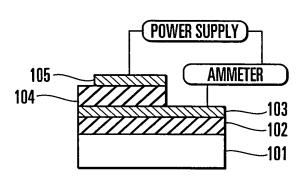


FIG.1A

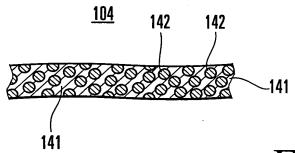
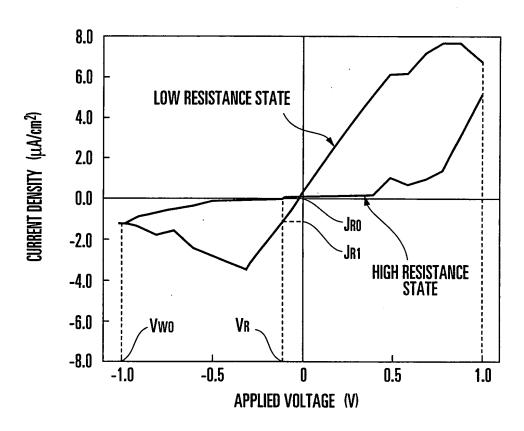


FIG.1B



F I G. 2

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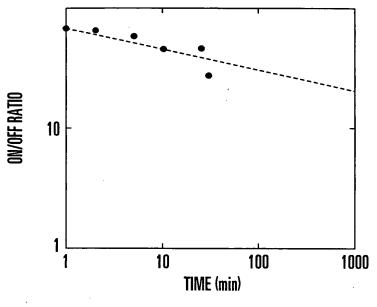
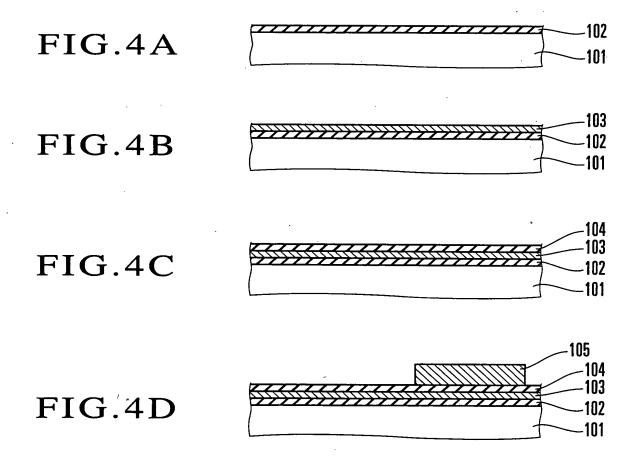


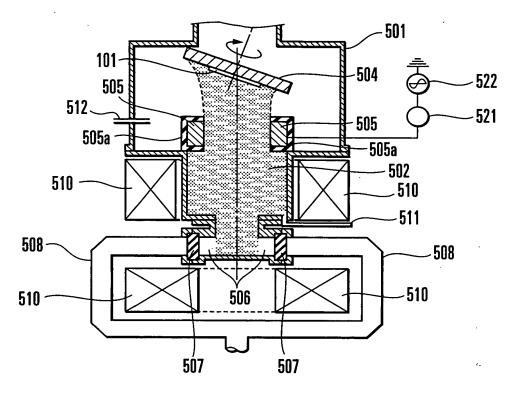
FIG. 3



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F I G. 5

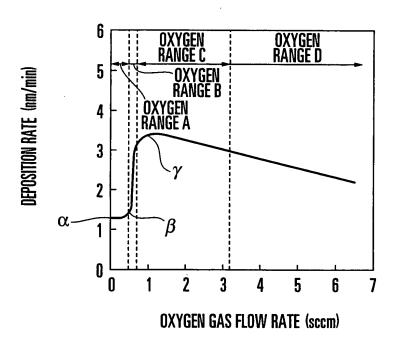


FIG. 6

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FIG.7A



FIG. 7a

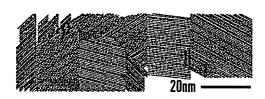


FIG.7B



FIG.7b

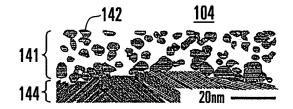


FIG.7C



FIG.7c



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FIG.7D

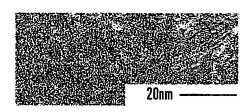
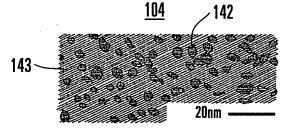
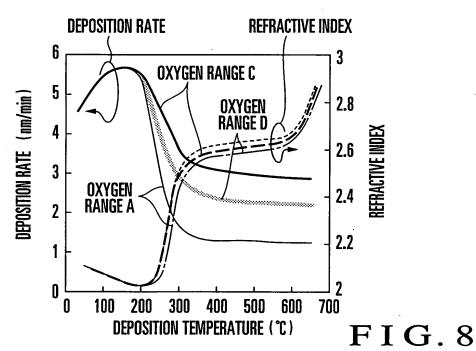
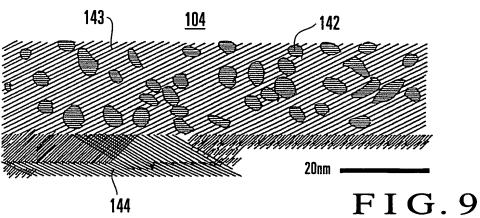


FIG.7d







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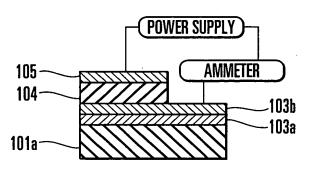


FIG.10A

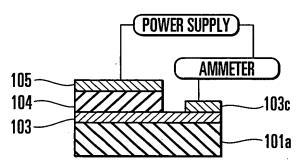


FIG.10B

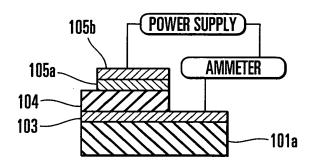


FIG.10C

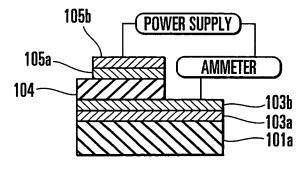
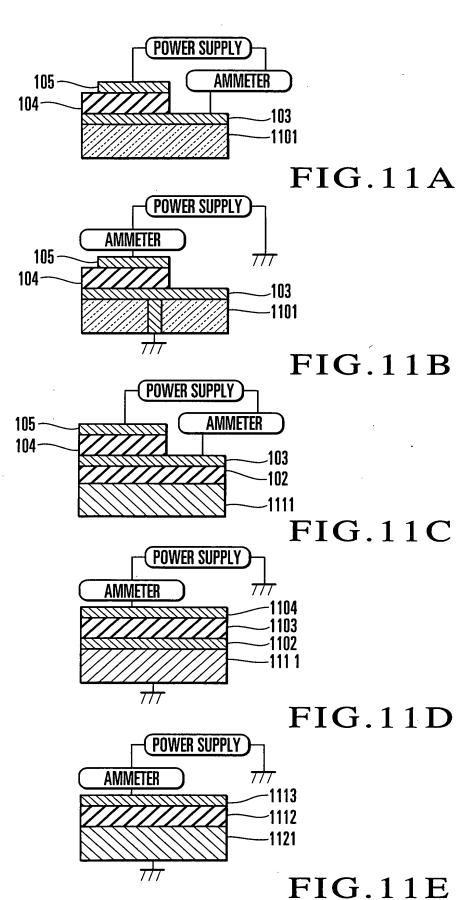


FIG.10D

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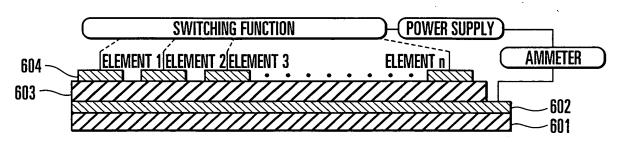


FIG.12A

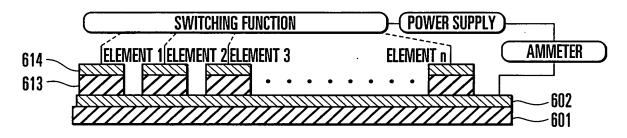


FIG.12B

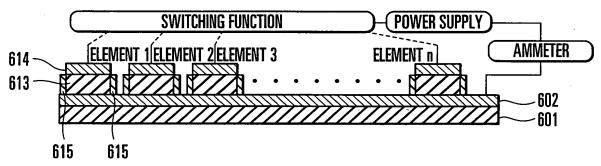


FIG.12C

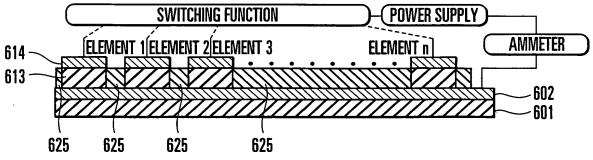


FIG.12D

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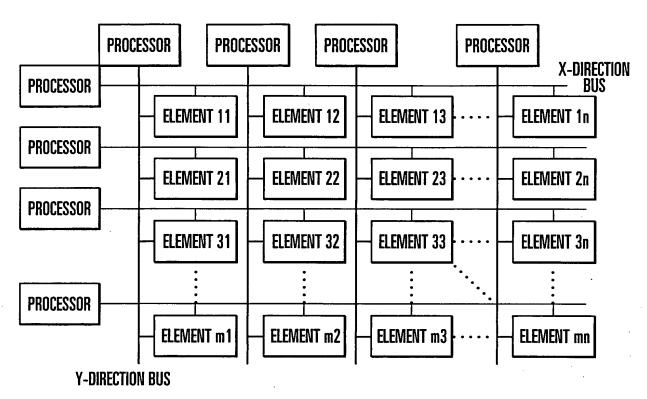


FIG. 13

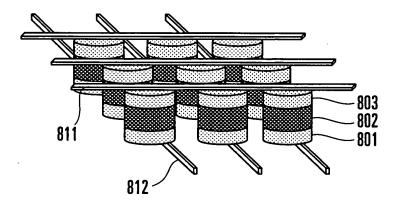


FIG. 14

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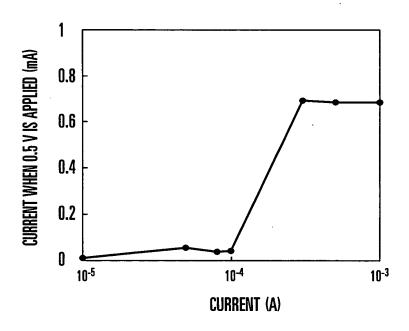


FIG. 15

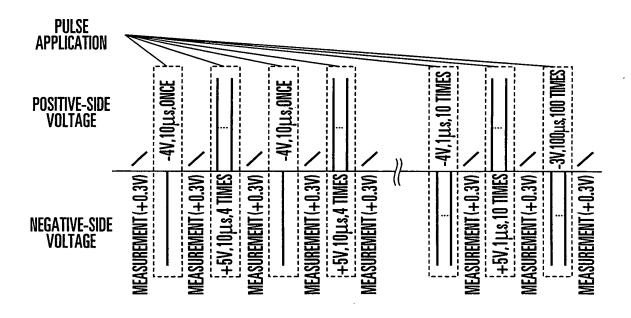


FIG. 16

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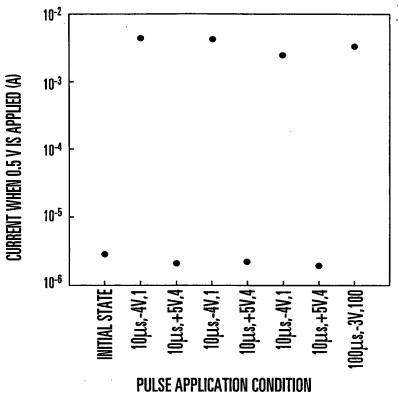


FIG. 17

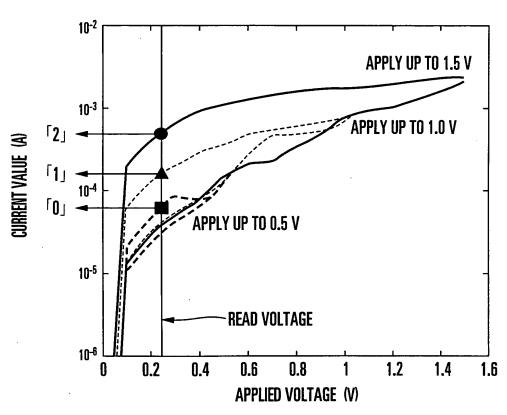


FIG. 18

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NUMBER OF PULSES	1	2	3	4	5	
PULSE VOLTAGE (V)	+3	-3	+3	+1.5	+3	
PULSE WIDTH (µsec)	10	10	10	10	10	
STATE	Г 1 ј	ال	「2 」	۲ 1]	「2 」	

FIG. 19

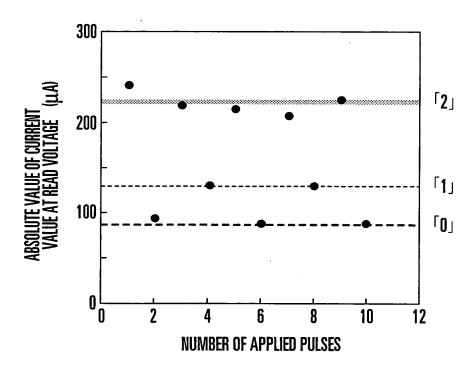
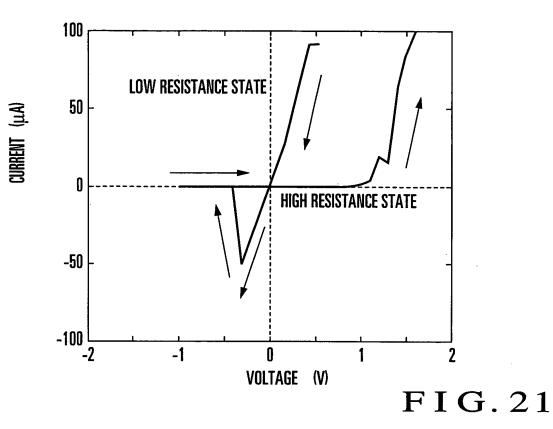


FIG. 20

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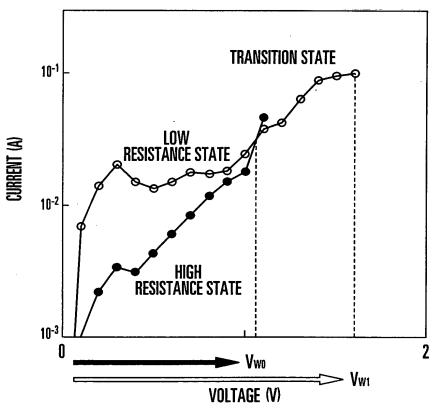


FIG. 22

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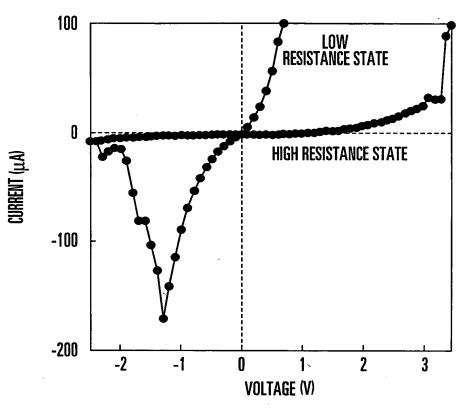


FIG. 23

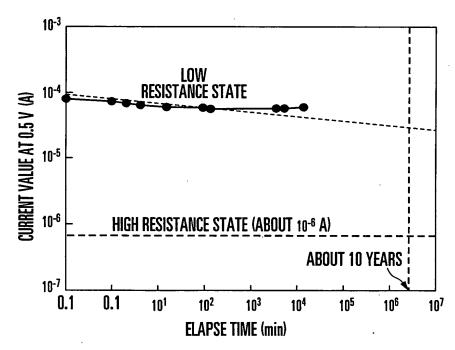


FIG. 24

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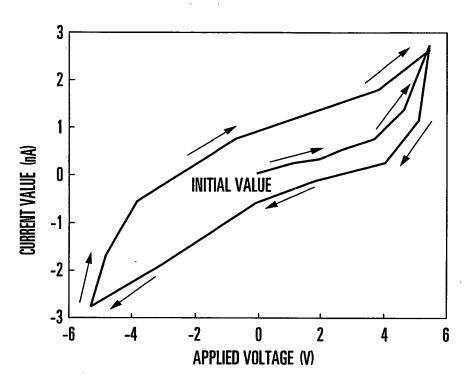


FIG.25A

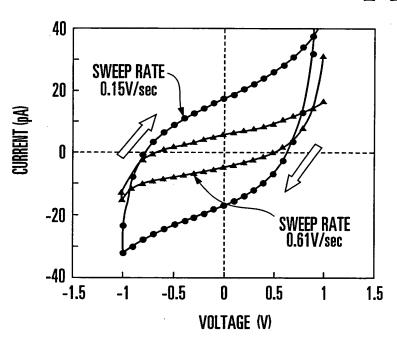


FIG.25B

Blakely, Sokoloff, Taylor & Zafman LLP Title: BISTABLE RESISTANCE VALUE 1st Named Inventor: Joshito JIN

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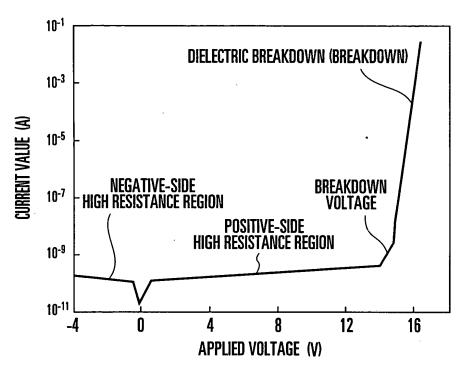


FIG. 26

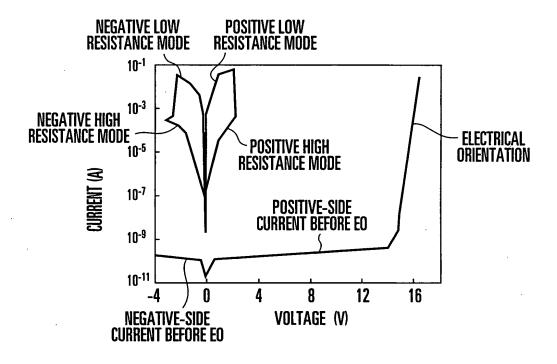
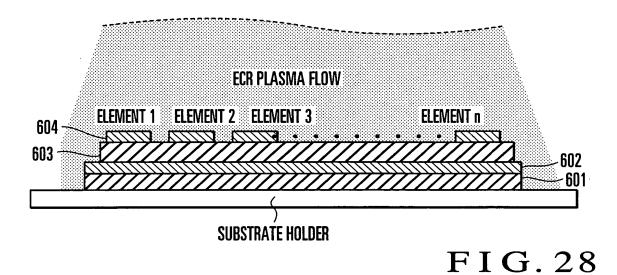


FIG. 27

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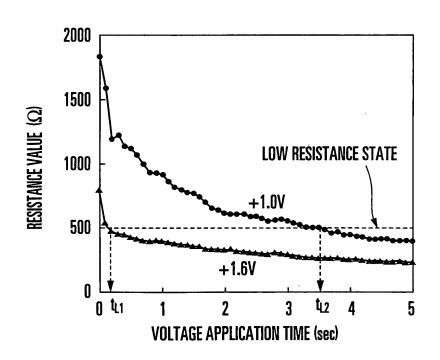


FIG. 29

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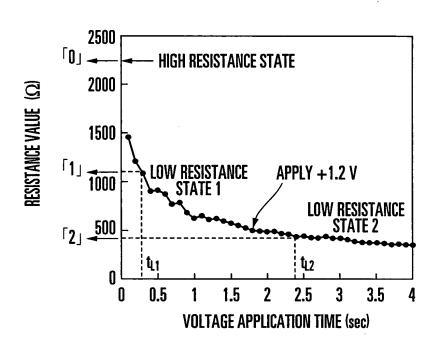


FIG. 30

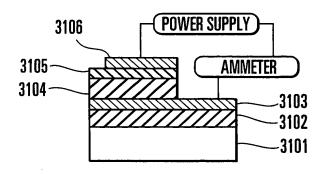
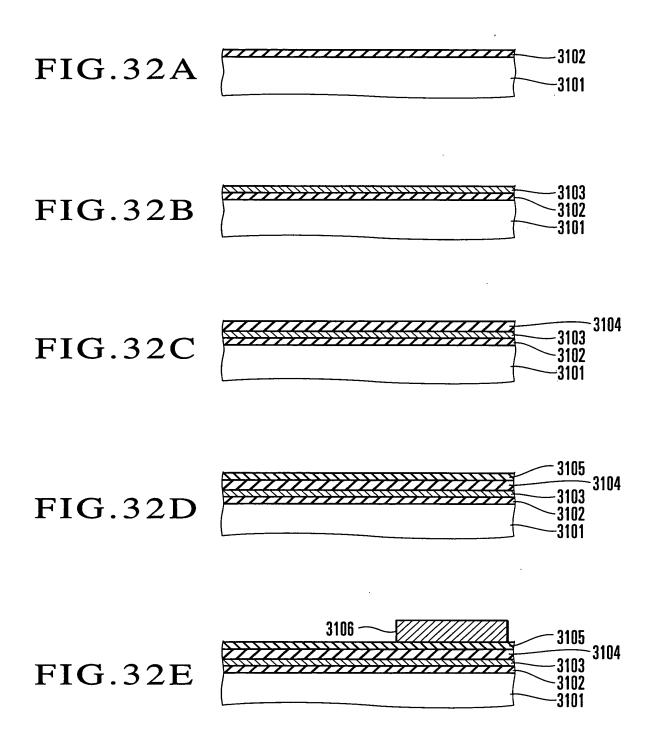


FIG. 31

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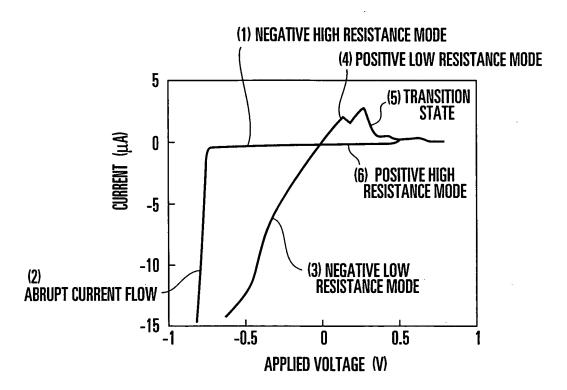


FIG. 33

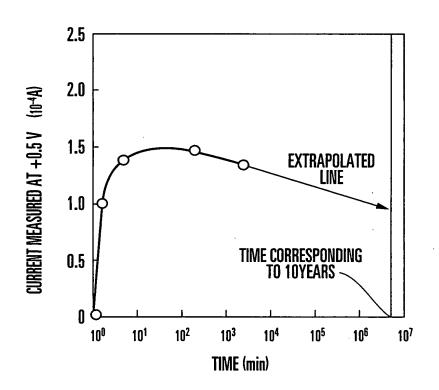


FIG. 34

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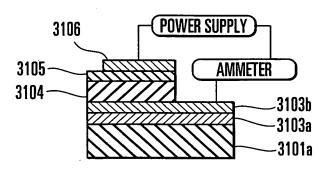


FIG.35A

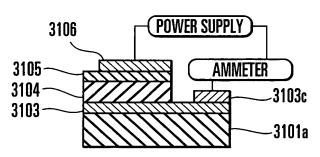


FIG.35B

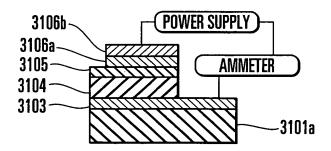


FIG.35C

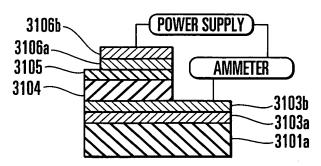


FIG.35D

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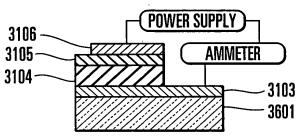


FIG. 36

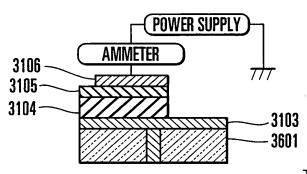


FIG. 37

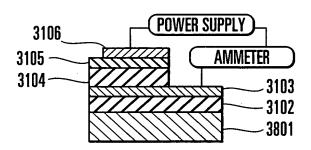


FIG.38A

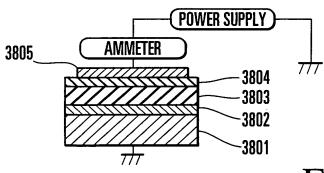
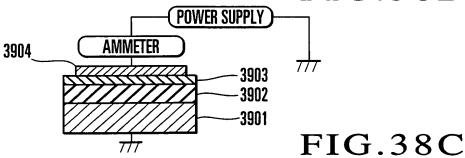


FIG.38B



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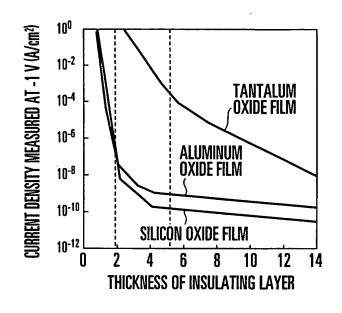


FIG. 39

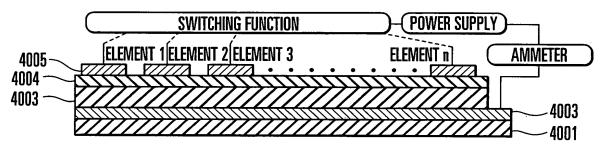


FIG.40A

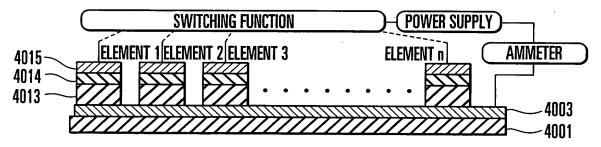
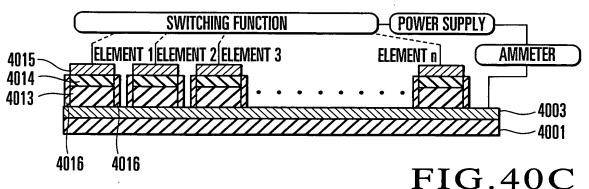


FIG.40B



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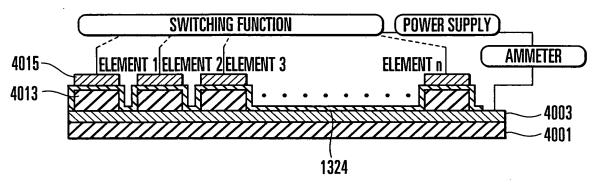
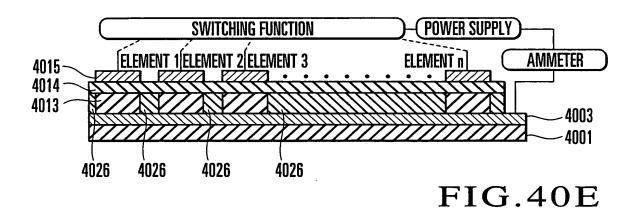


FIG.40D

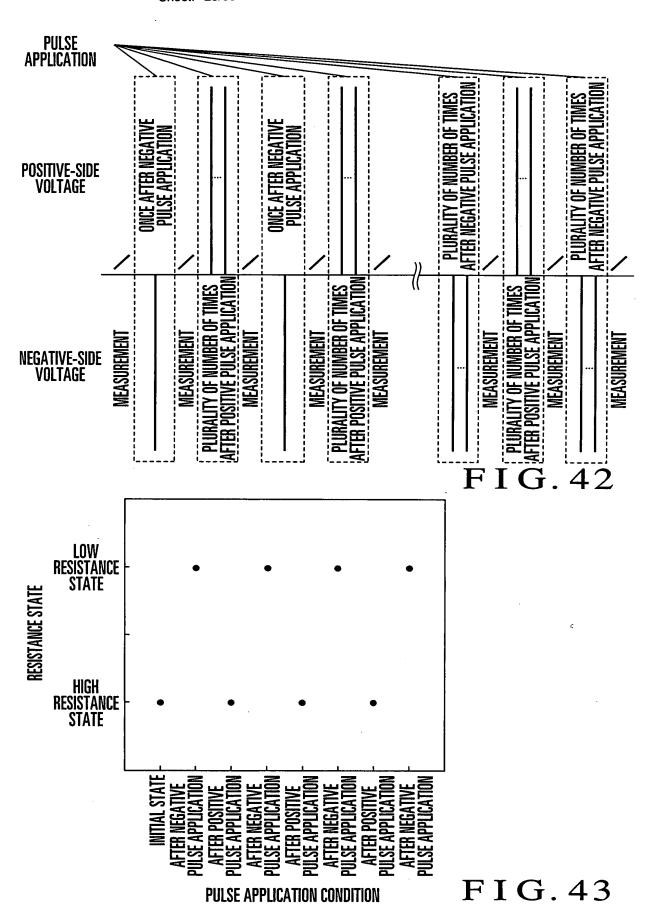


LOW RESISTANCE STATE HIGH RESISTANCE STATE 10-7 10⁻⁶ 10⁻⁵ **CURRENT (A)** FIG. 41

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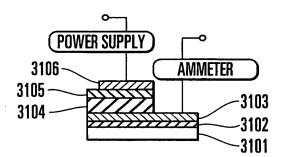


FIG.44A

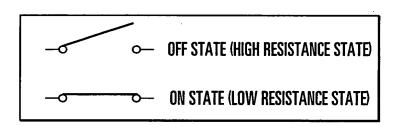


FIG.44B

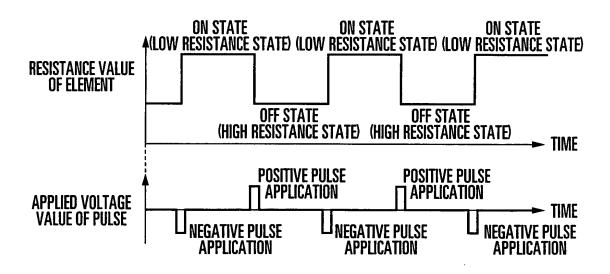


FIG. 45

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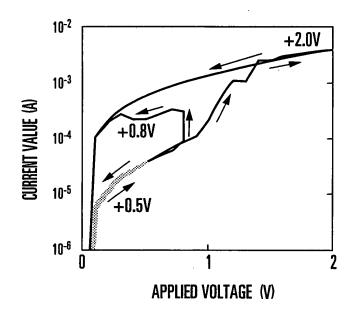


FIG. 46

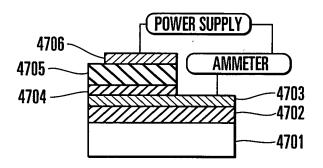
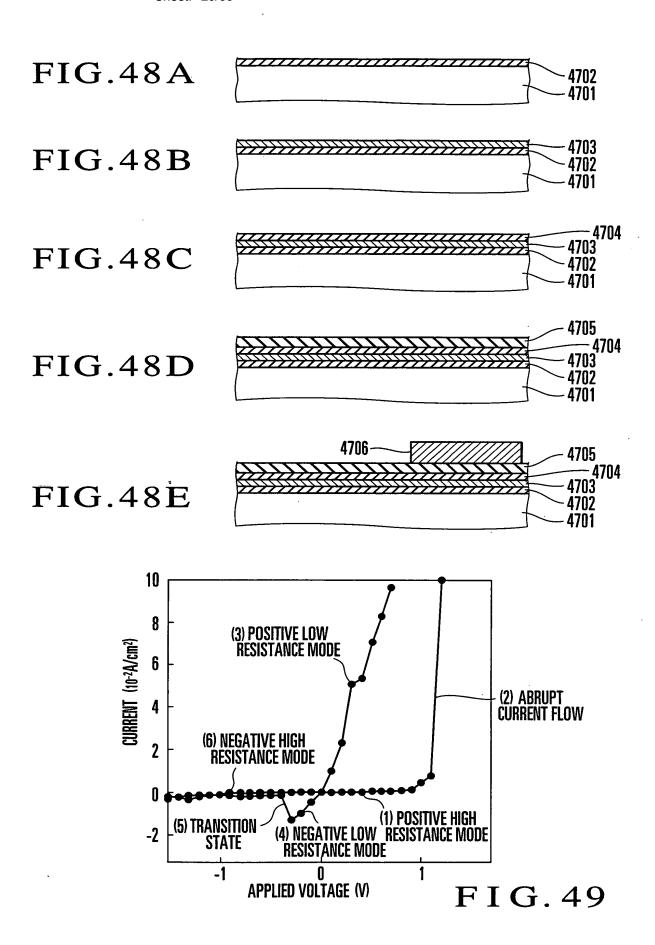


FIG. 47

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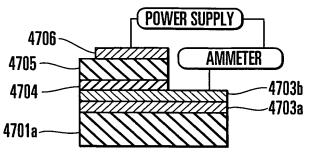


FIG.50A

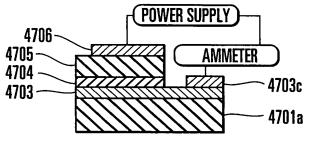


FIG.50B

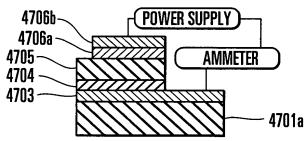


FIG.50C

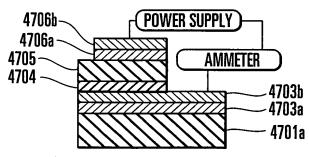


FIG.50D

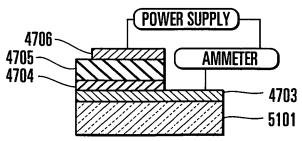
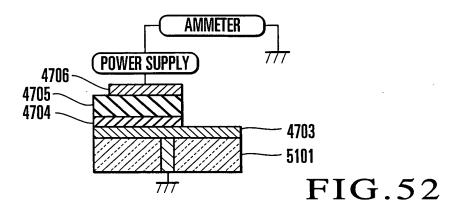


FIG.51

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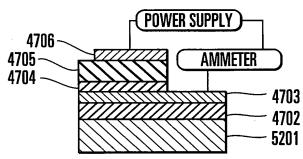


FIG.53A

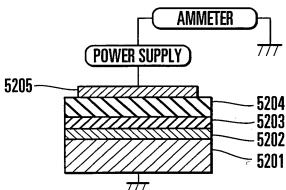
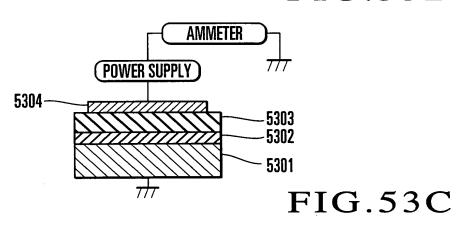


FIG.53B

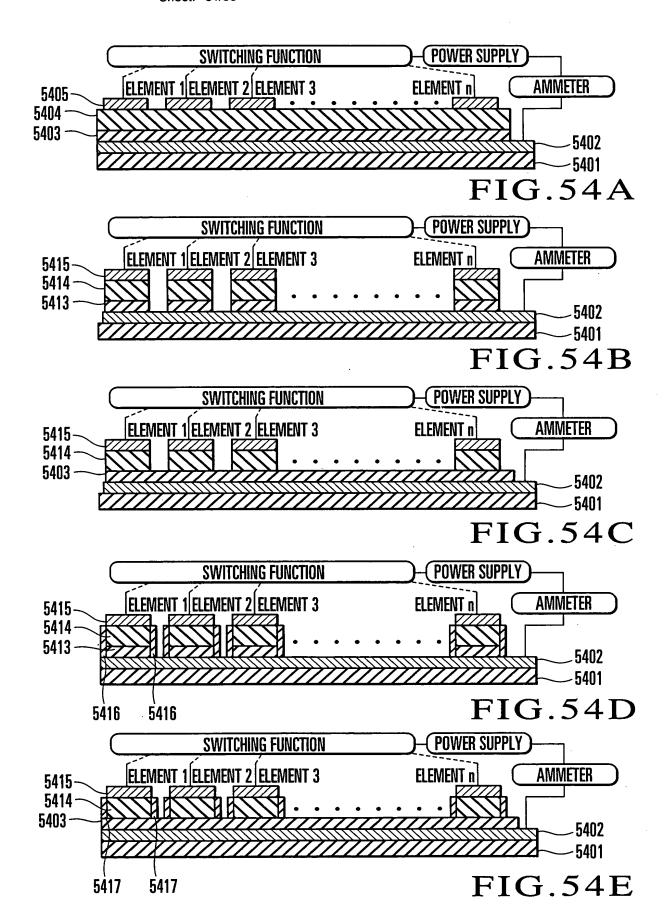


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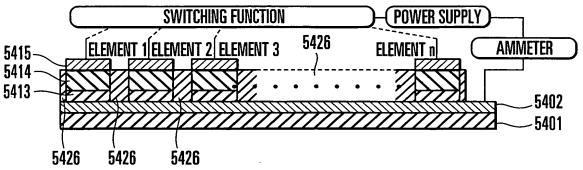


FIG.55

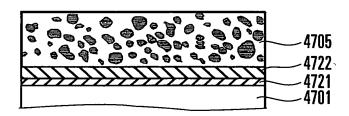


FIG.56

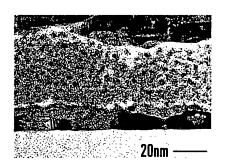


FIG.57

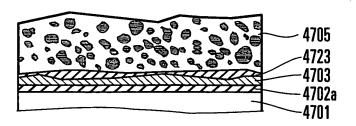


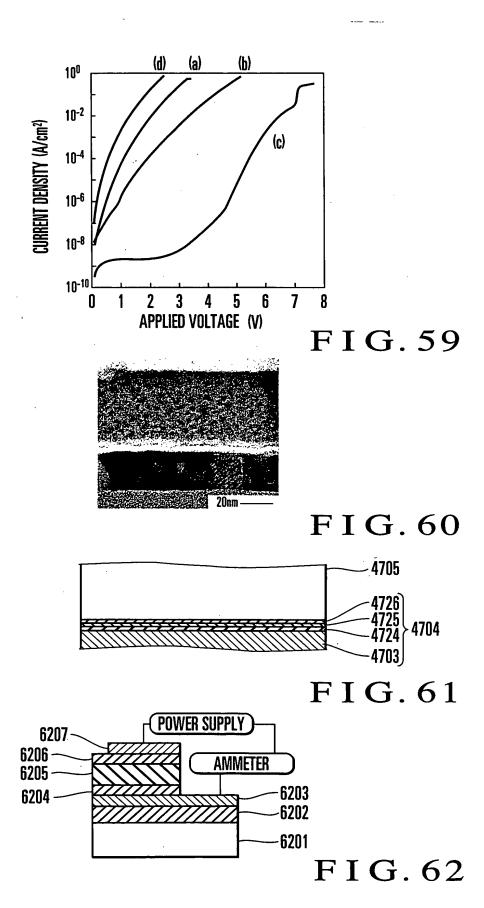
FIG.58

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1st Named Inventor: Jospita JIN.

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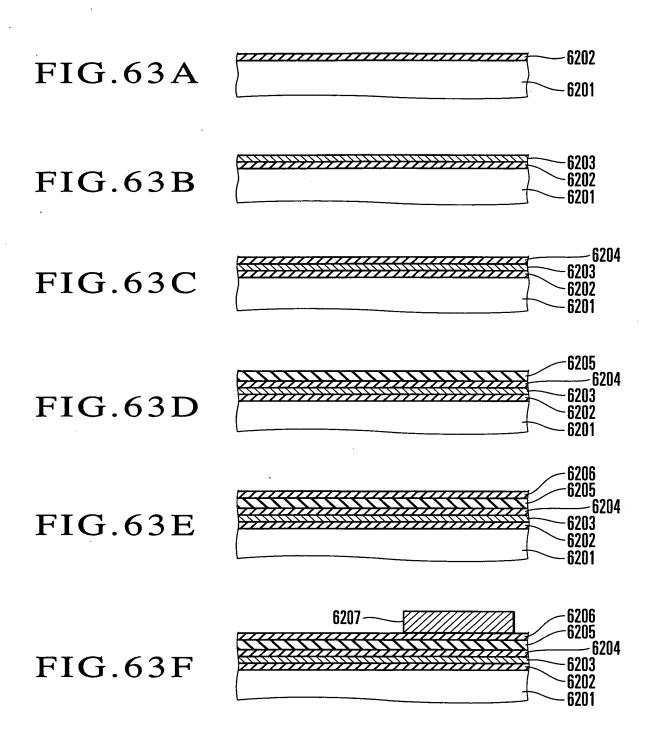
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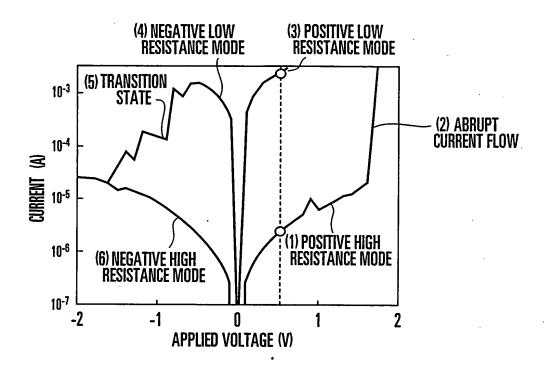


FIG. 64

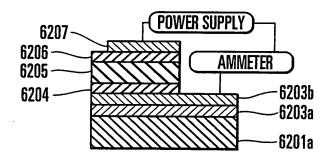


FIG. 65A

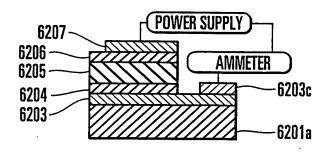


FIG. 65B

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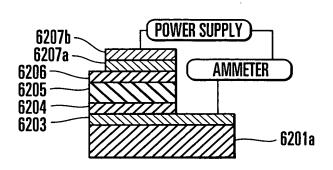


FIG. 65C

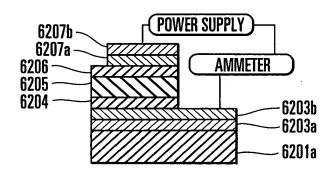


FIG. 65D

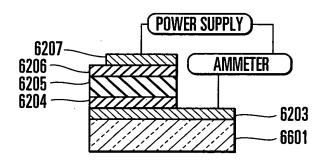


FIG. 66A

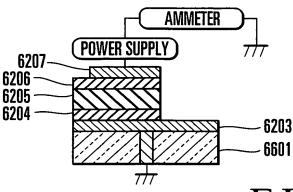


FIG. 66B

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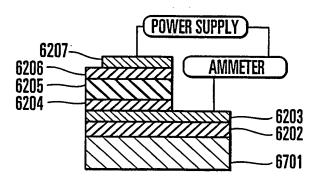


FIG.67A

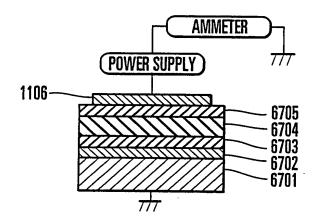


FIG.67B

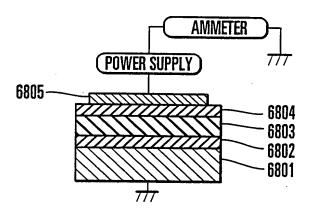
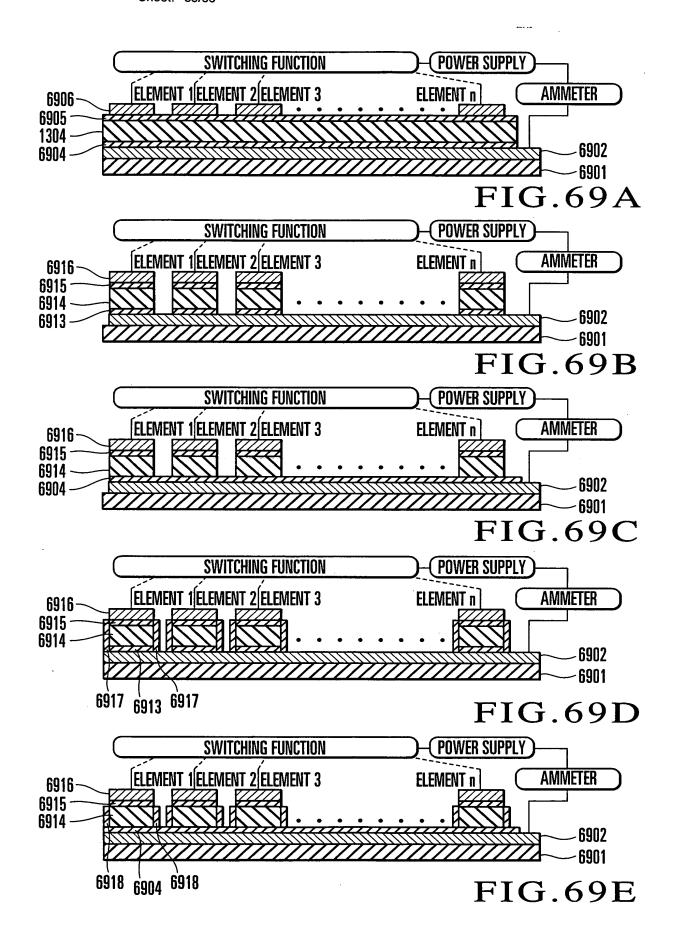


FIG.68

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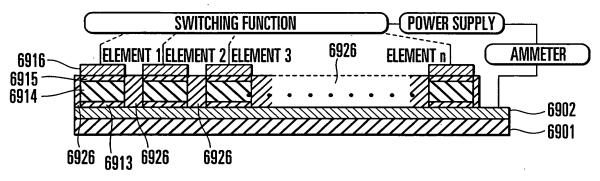


FIG.70

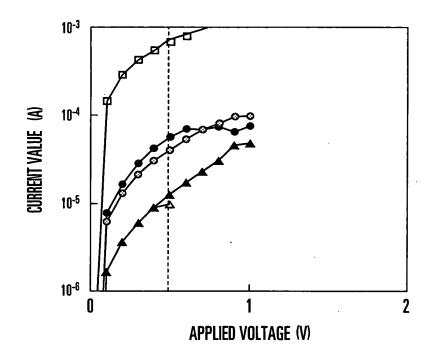


FIG.71

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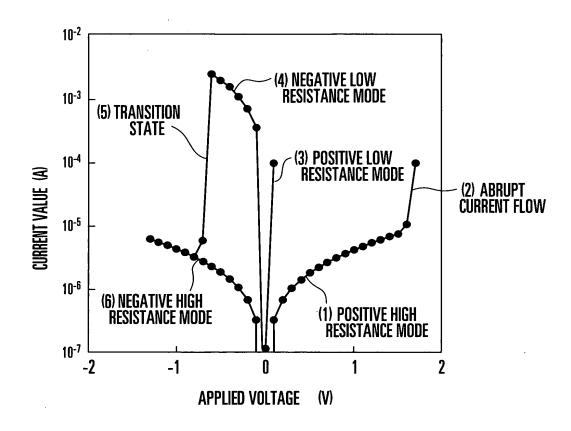


FIG.72

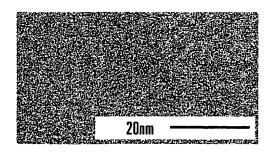


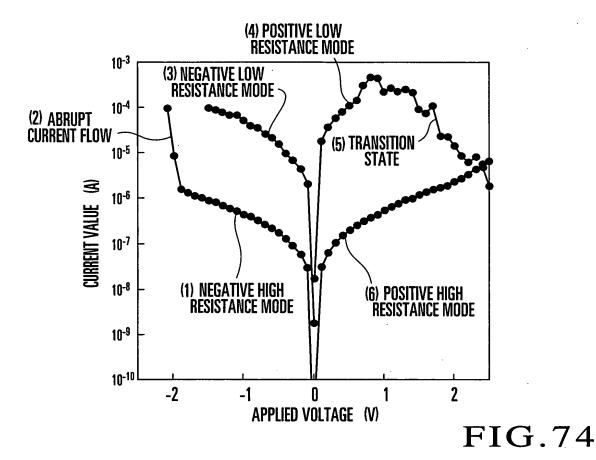
FIG.73

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(3) NEGATIVE LOW 10⁻² **RESISTANCE MODE** (4) POSITIVE LOW (5) TRANSITION **RESISTANCE MODE** (2) ABRUPT CURRENT FLOW 10-4 STATE 10⁻⁶ 10⁻⁸ (6) POSITIVE HIGH RESISTANCE MODE **NEGATIVE HIGH** 10⁻¹⁰ RESISTANCE MODE 10⁻¹²

10-14

-4

-2

0

2

6

4 **APPLIED VOLTAGE (V)** 8

10

12

FIG.75

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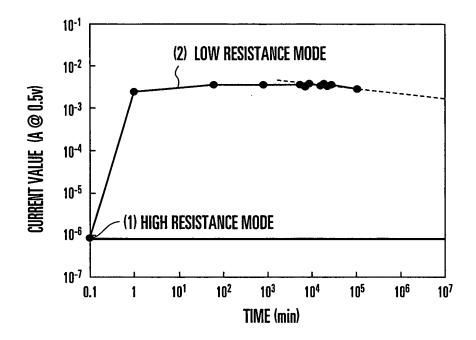


FIG.76

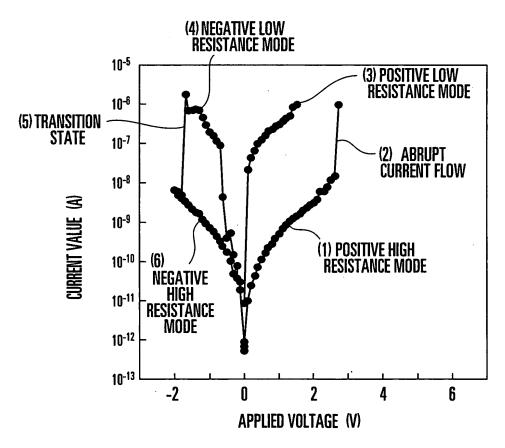


FIG.77

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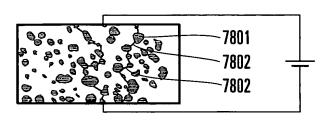


FIG. 78

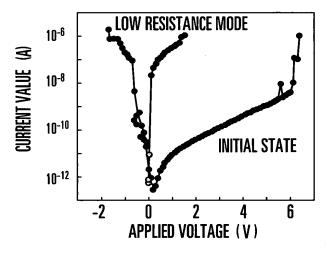


FIG. 79

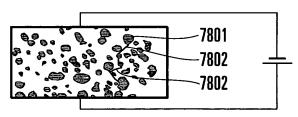


FIG. 80

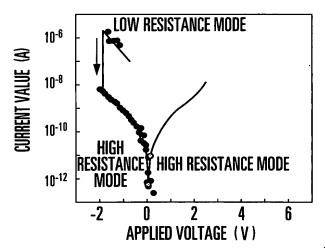


FIG. 81

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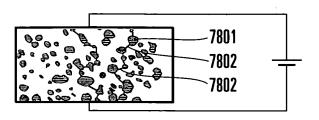


FIG. 82

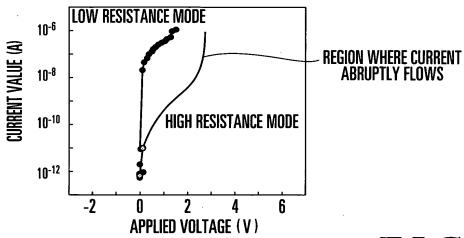


FIG. 83

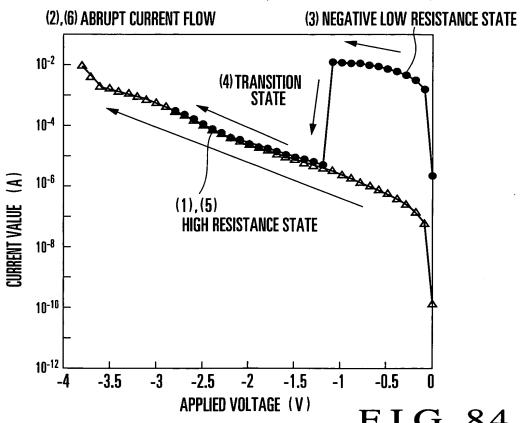
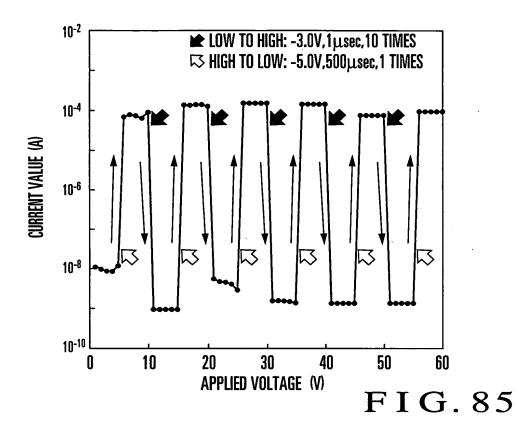


FIG. 84

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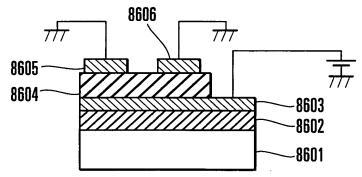


FIG. 86A

8605
8604
8602
8601

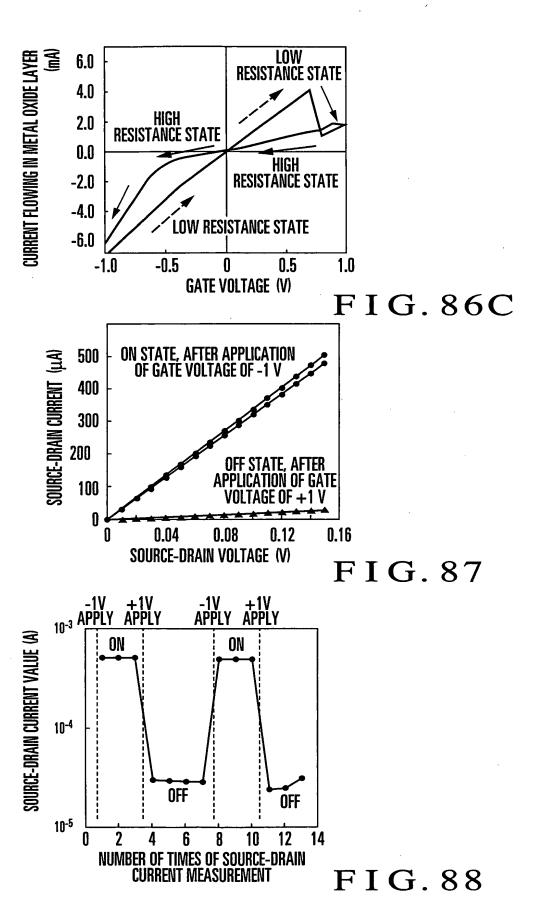
FIG. 86B

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.

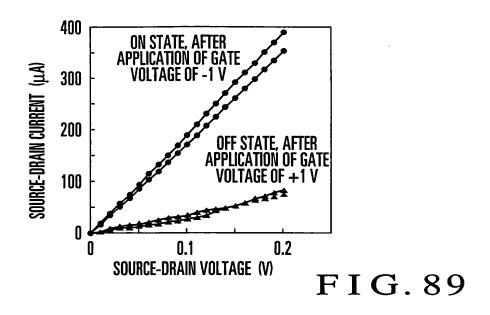
(310) 207-3800

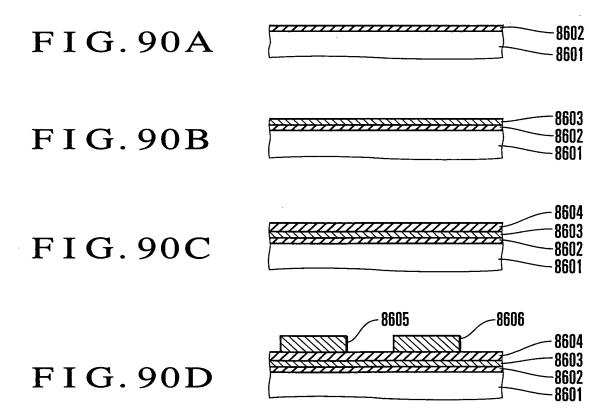


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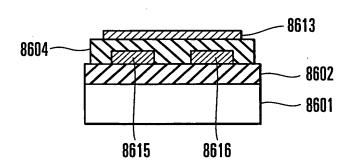


FIG. 91

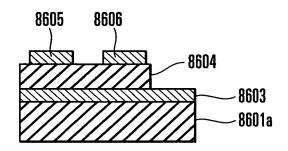


FIG. 92A

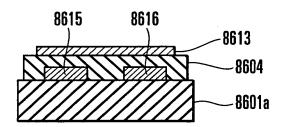


FIG. 92B

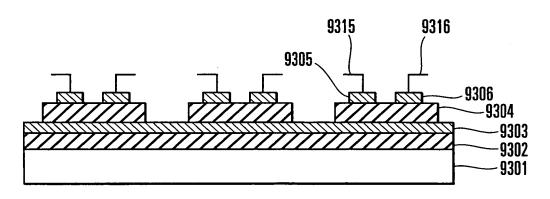


FIG. 93A

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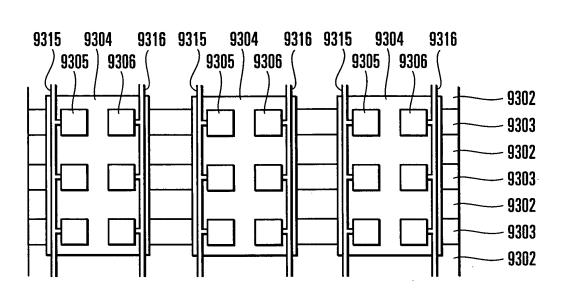


FIG. 93B

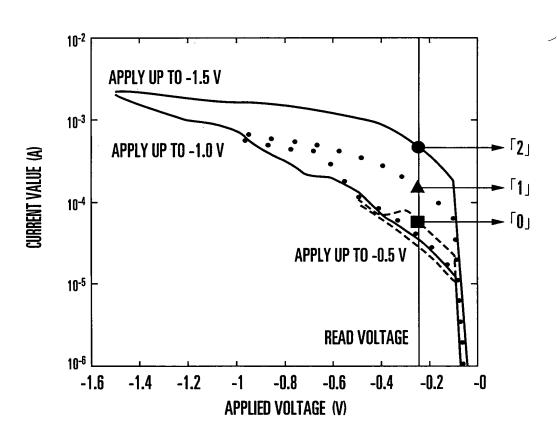


FIG. 94

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NUMBER OF PULSES	1	2	3	4	5					
PULSE VOLTAGE (V)	-3	+3	-3	-1.5	-3					
PULSE WIDTH (µsec)	10	10	10	10	10					
STATE	آ]	ر 0 ا	「 2 」	۲ ۱ ၂	「2 」					

FIG. 95

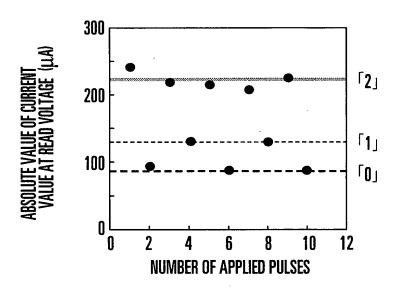


FIG. 96

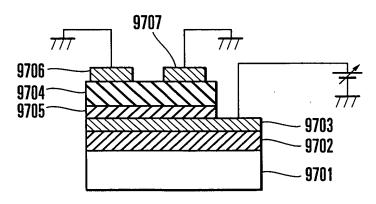


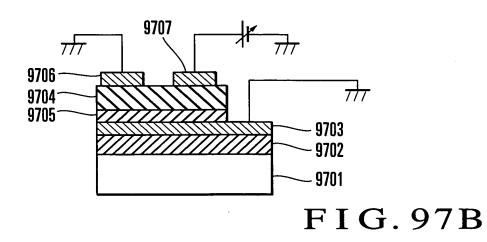
FIG. 97A

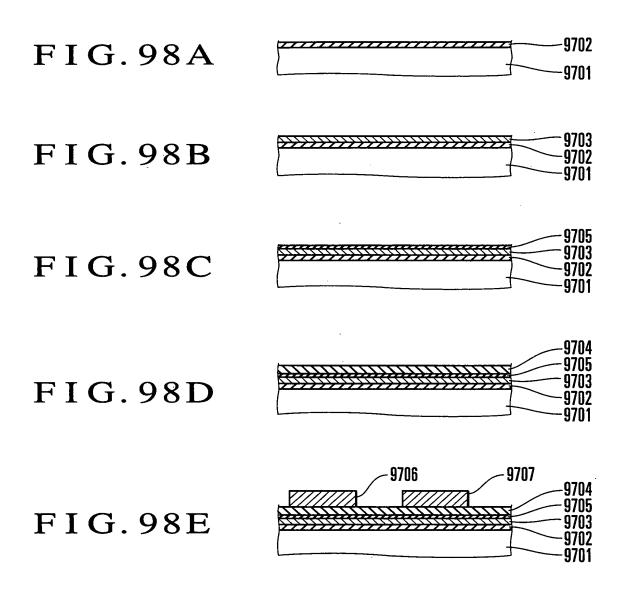
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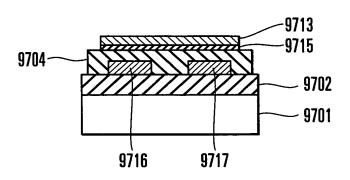


FIG. 99

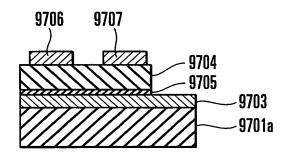


FIG. 100A

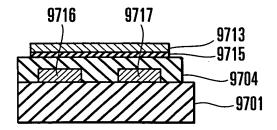
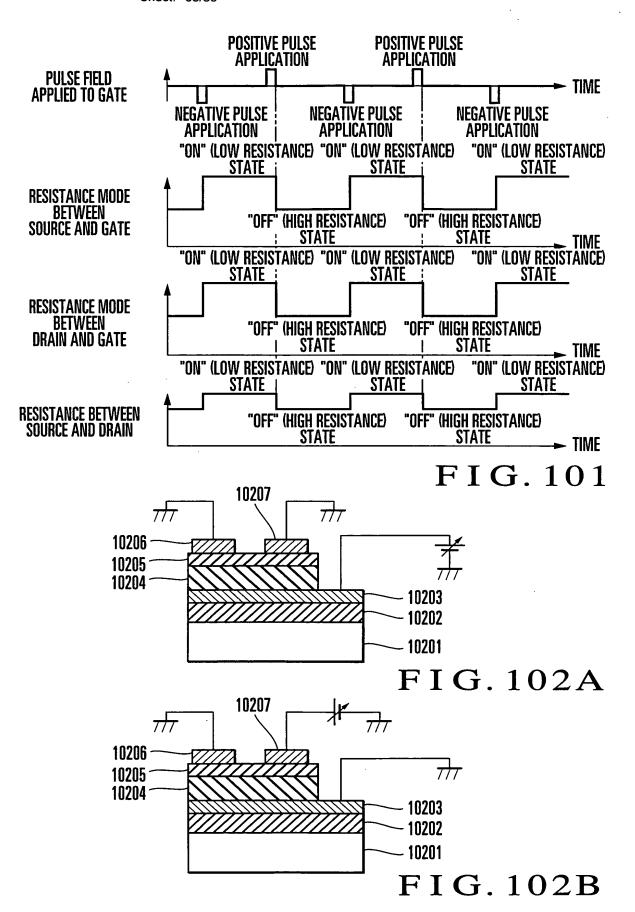


FIG. 100B

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10204

10215

10216

10217

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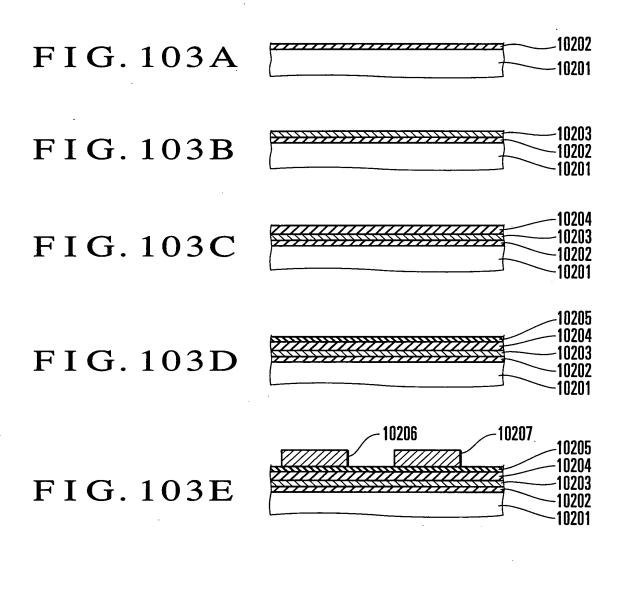


FIG. 104

10213

-10215

- 10202

- 10201

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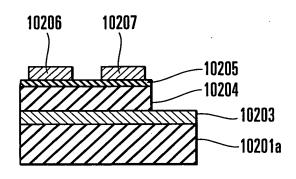


FIG.105A

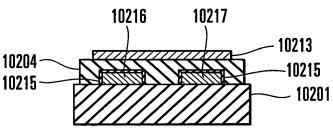


FIG.105B

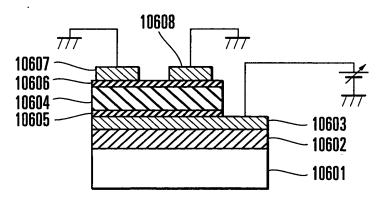


FIG.106A

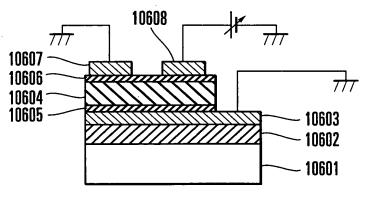


FIG.106B

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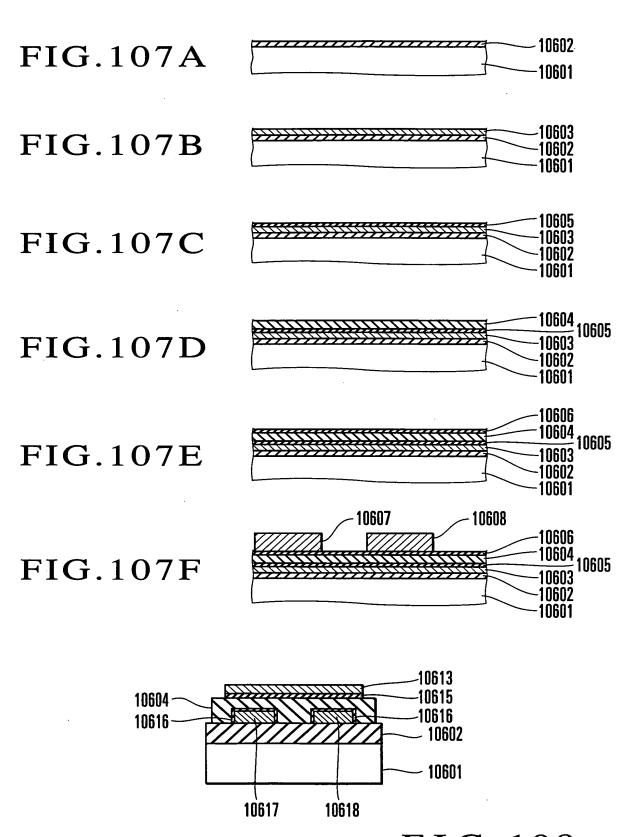


FIG. 108

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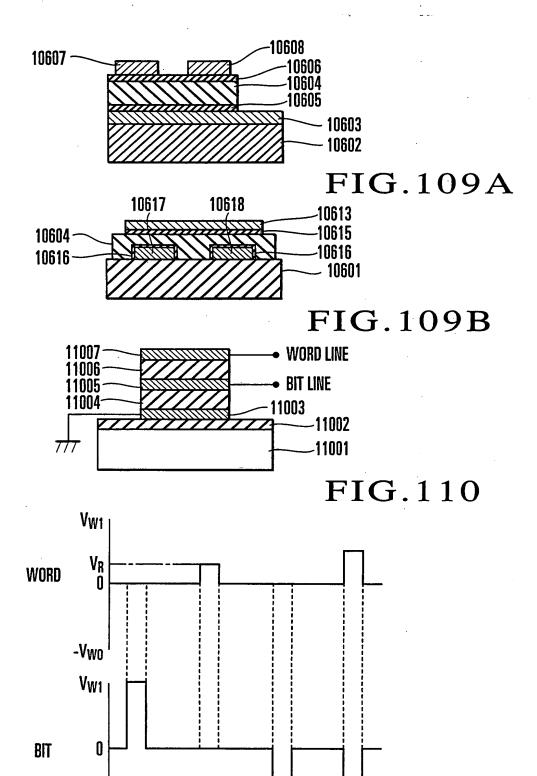


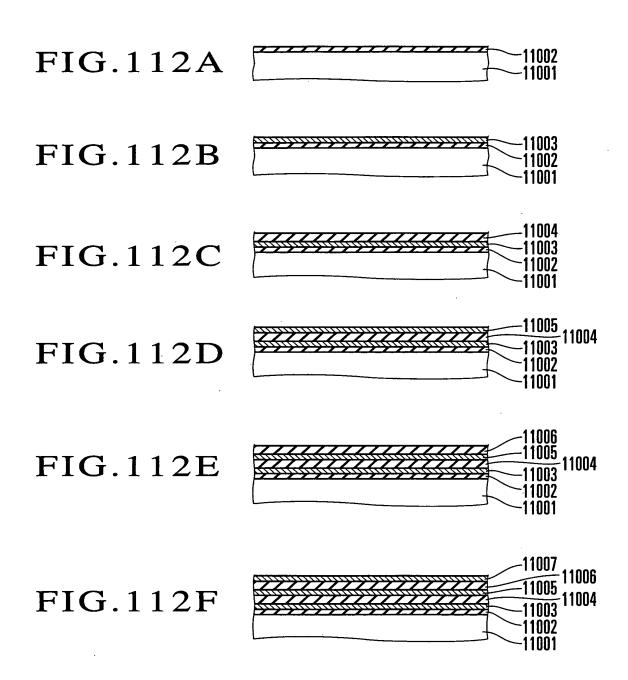
FIG.111

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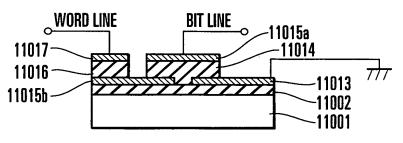


FIG.113A

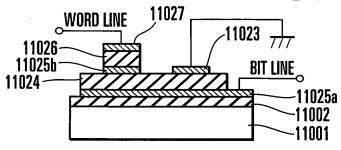


FIG.113B

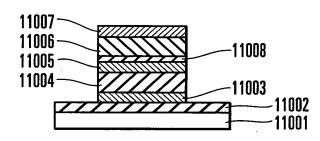


FIG.114A

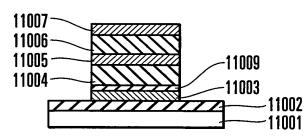


FIG.114B

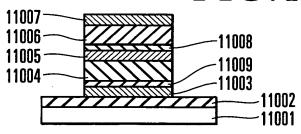
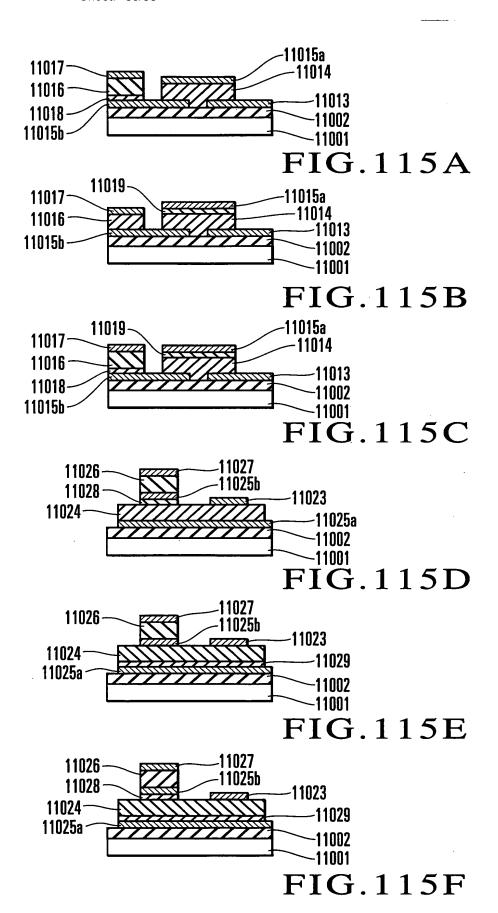


FIG.114C

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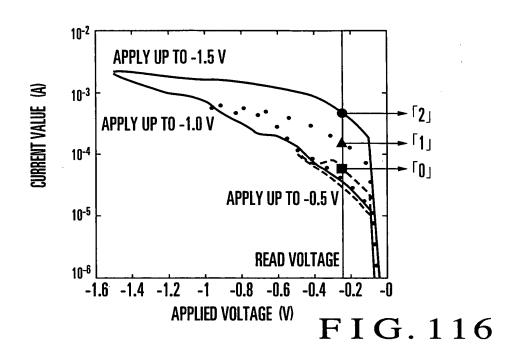


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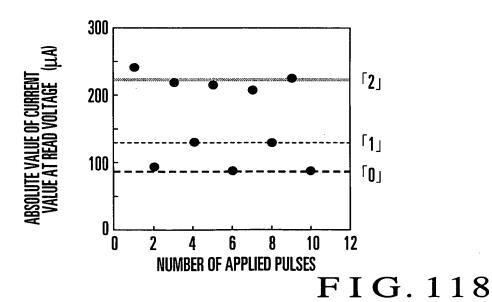
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_	NUMBER OF PULSES	1	2	3	4	5							
_	PULSE VOLTAGE (V)	-3	+3	-3	-1.5	-3							
_	PULSE WIDTH (µsec)	10	10	10	10	10							
-	STATE	Г 1 ј	ال	「2 」	「 1 」	「2」							
' A A A A													
	FIG. 117												



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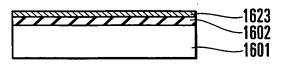


FIG. 119A

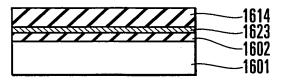


FIG. 119B

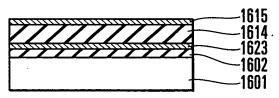


FIG. 119C

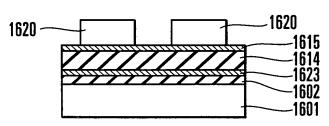


FIG. 119D

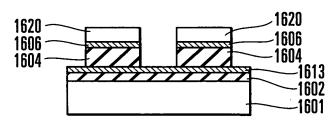


FIG. 119E

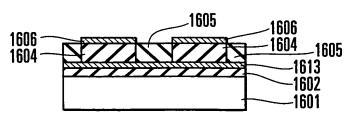


FIG. 119F

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103 \ 104

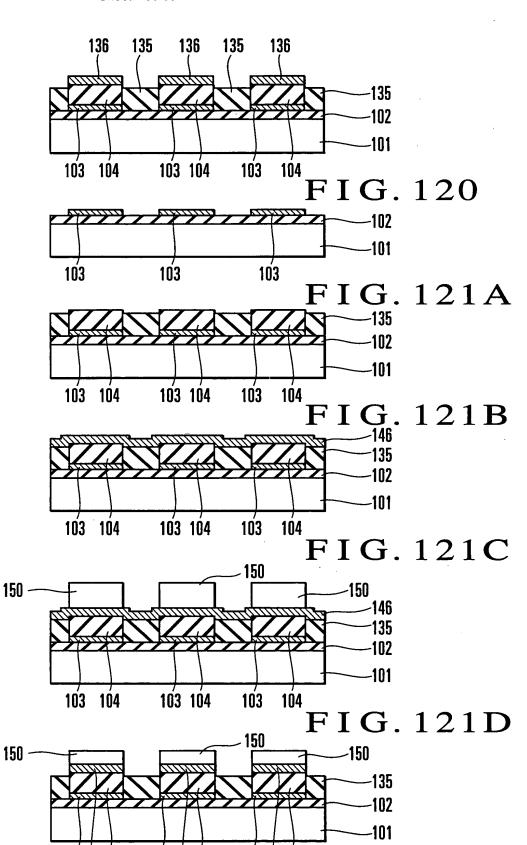
136

103 \ 104

136

FIG. 121E

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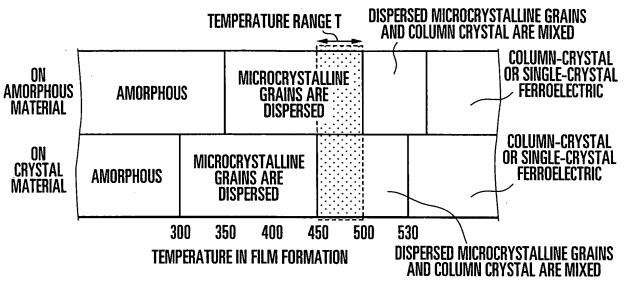


FIG. 122

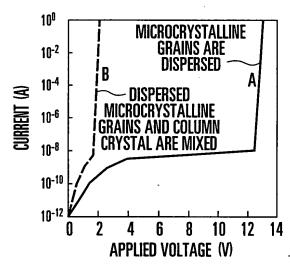


FIG. 123

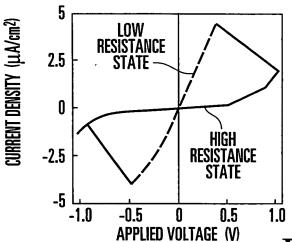


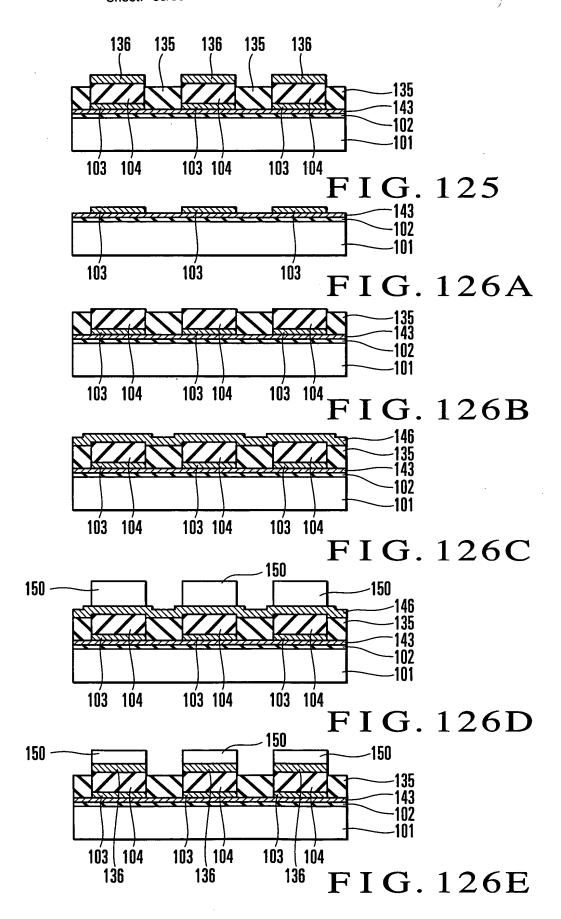
FIG. 124

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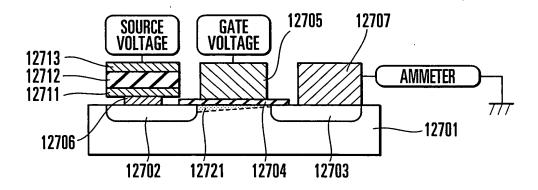


FIG. 127

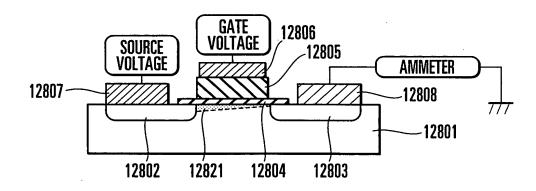


FIG. 128

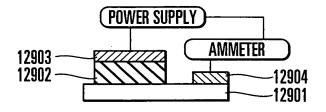


FIG. 129